Service Manual

GM-X642/X1R/EW

ORDER NO.
CRT2480

BRIDGEABLE POWER AMPLIFIER

GM-X642

X1R/EW

GM-X542

X1R/UC,ES

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K-ZZA. MAR. 2000 Printed in Japan

1. SAFETY INFORMATION

CAUTION

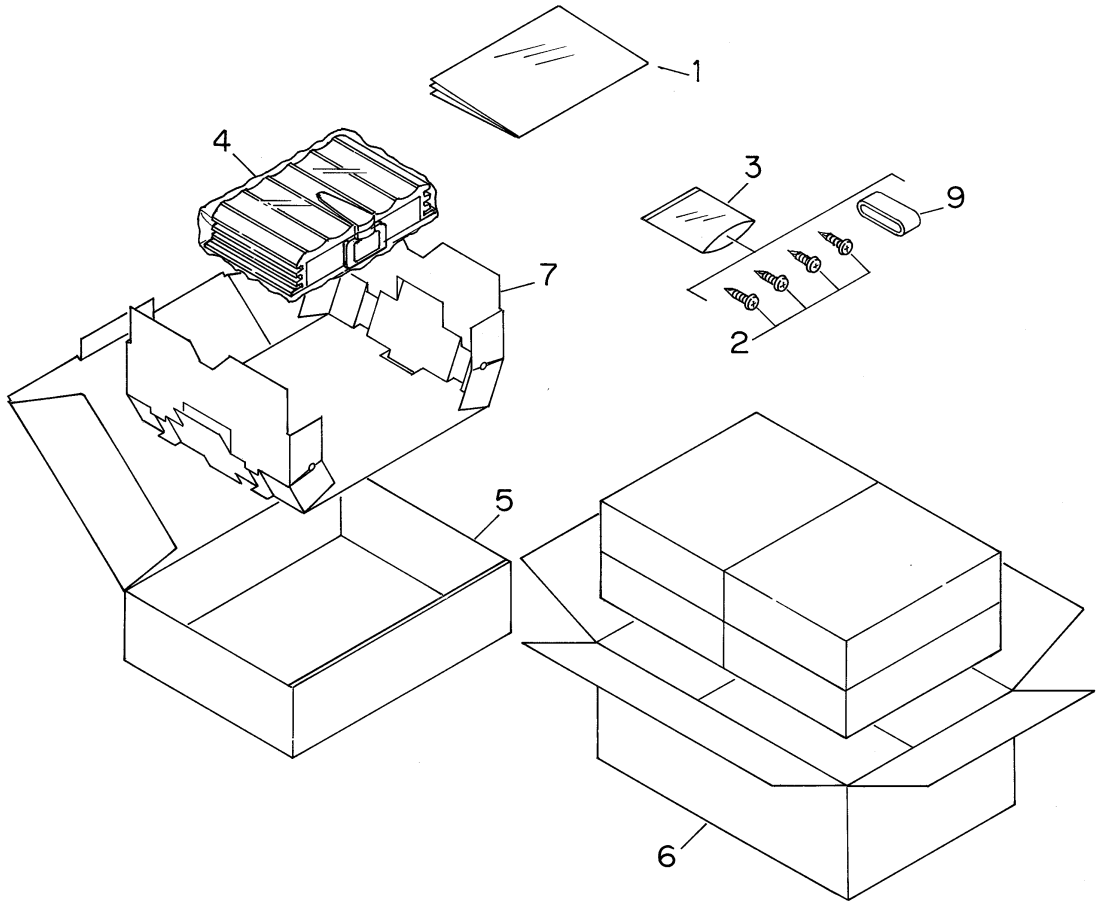
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



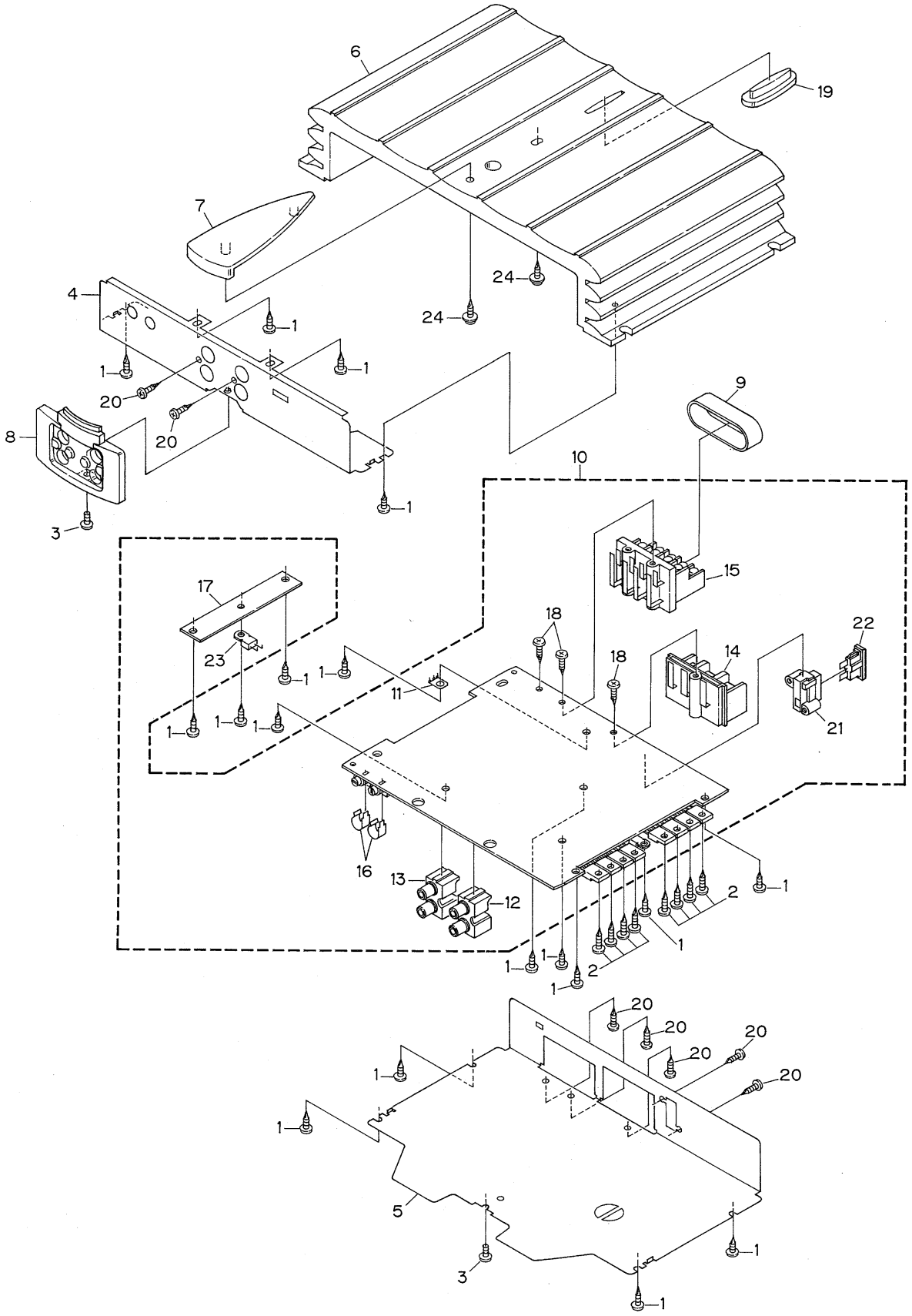
NOTE:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No. GM-X642/X1R/EW	Part No. GM-X542/X1R/UC	Part No. GM-X542/X1R/ES
	1-1	Owner's Manual	HRD0136	HRD0135	HRD0137
	1-2	Owner's Manual	Not used	Not used	HRD0143
*	1-3	Warranty Card	HRY1157	Not used	Not used
*	1-4	Card	Not used	ARY1048	Not used
	2	Screw	BYC40P180FZK	BYC40P180FZK	BYC40P180FZK
	3	Polyethylene Bag	HEG0011	HEG0011	HEG0011
	4	Polyethylene Bag	HEG0009	HEG0009	HEG0009
	5	Carton	HHG0242	HHG0241	HHG0243
	6	Contain Box	HHL0242	HHL0241	HHL0243
	7	Protector	HHP0078	HHP0078	HHP0078
	8	•••••			
	9	Cover	HNS0101	HNS0101	HNS0101

2.2 EXTERIOR


6
19
7
24
24
4
1
1
1
20
20
8
9
10
3
1
17
15
18
22
23
1
18
14
1
1
1
11
21
16
13
12
2
1
1
1
2
1
20
20
20
20
20
1
1
5
3
1
1

(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.
1	Screw	BBZ30P060FMC
2	Screw	BBZ30P080FMC
3	Screw	BSZ30P050FZK
4	Panel	See Contrast table(2)
5	Case	See Contrast table(2)
6	Heat Sink	See Contrast table(2)
7	Plate	HNS0077
8	Plate	HNS0081
9	Cover	HNS0101
10	Amp Unit	See Contrast table(2)
11	Terminal(CN902)	CKF1059
12	Pin Jack(CN851)	HKB0001
13	Pin Jack(CN852)	HKB0001
14	Terminal(CN901)	HKE0036
15	Terminal(CN601)	HKE0035
16	Clip	HNC0054
17	Heat Sink	HNR0151
18	Screw	PPZ30P100SAD
19	Light Pipe Unit	HXA0322
20	Screw	PPZ30P100FZK
21	Fuse Holder	HKE0012
22	Fuse(FU902)(25A)	HEK0025
23	Thermistor(TH902)	CCX1013
24	Screw(M2.6x6)	HBA0012

(2) CONTRAST TABLE

GM-X642/X1R/EW and GM-X542/X1R/UC, ES are constructed the same except for the following:

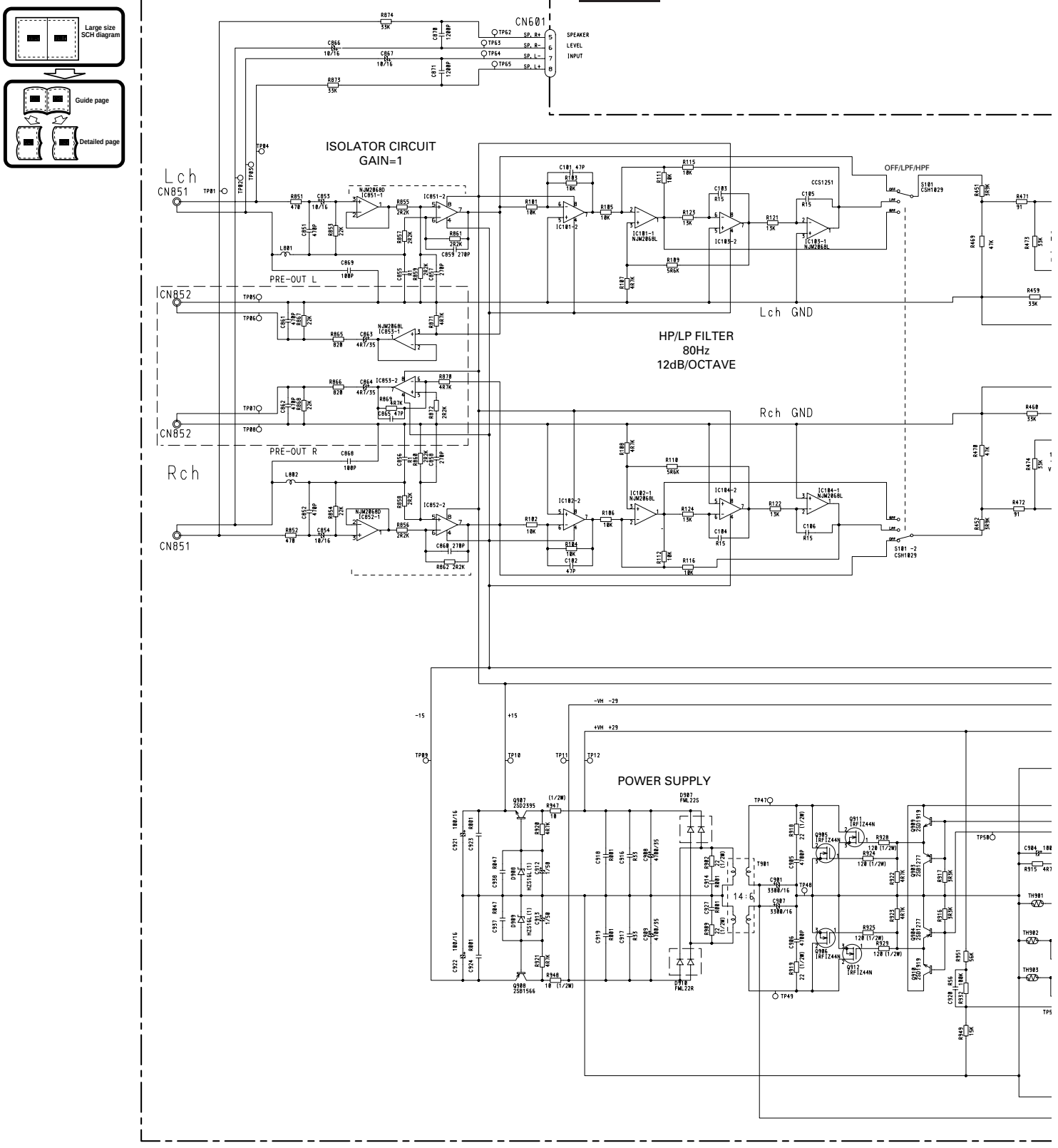
Mark No.	Description	Part No.		
		GM-X642/X1R/EW	GM-X542/X1R/UC	GM-X542/X1R/ES
4	Panel	HNB0111	HNB0112	HNB0112
5	Case	HNB0116	HNB0114	HNB0114
6	Heat Sink	HNR0150	HNR0156	HNR0156
10	Amp Unit	HWH0130	HWH0129	HWH0131

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A-a



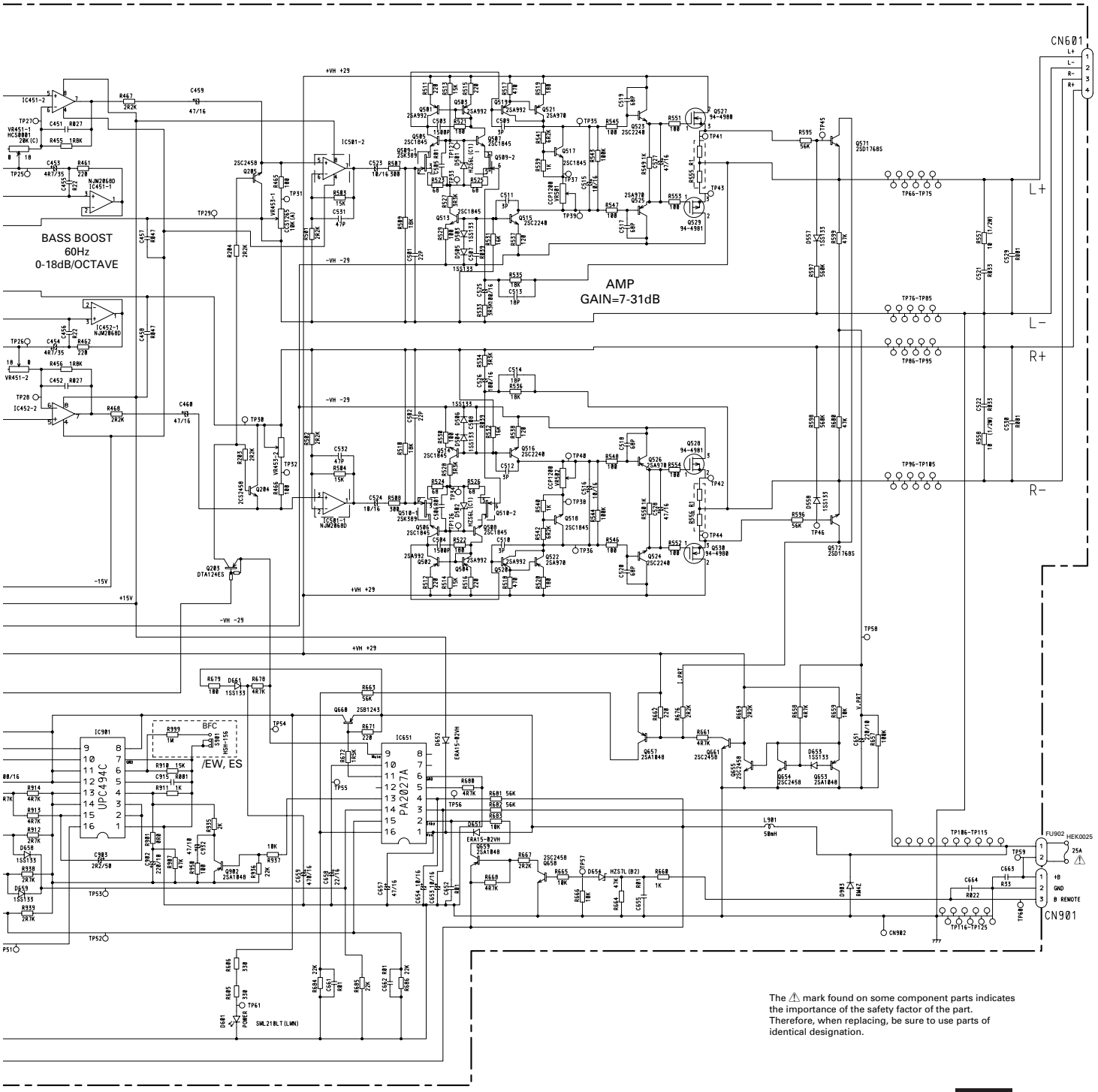
A-b

NOTE :

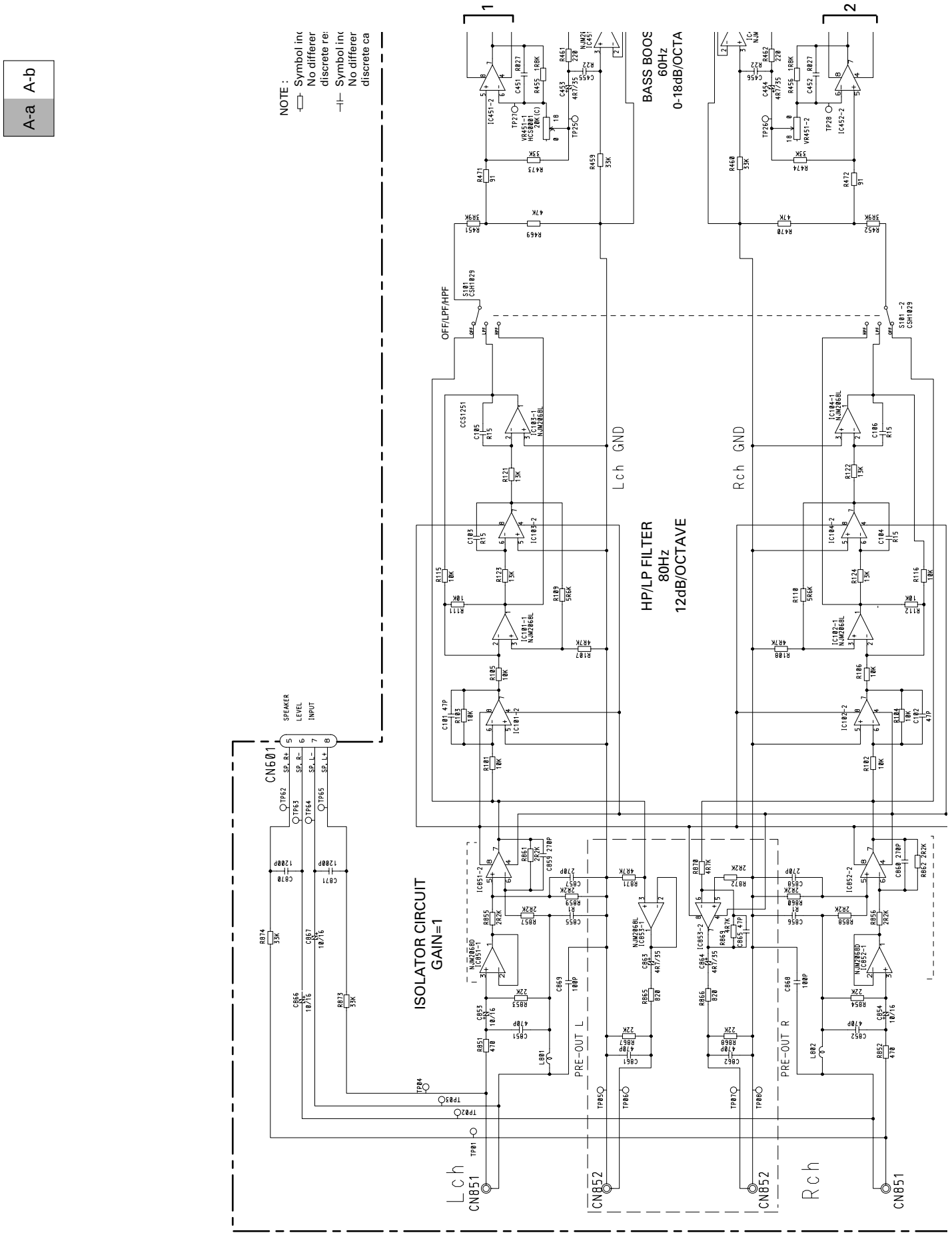
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022

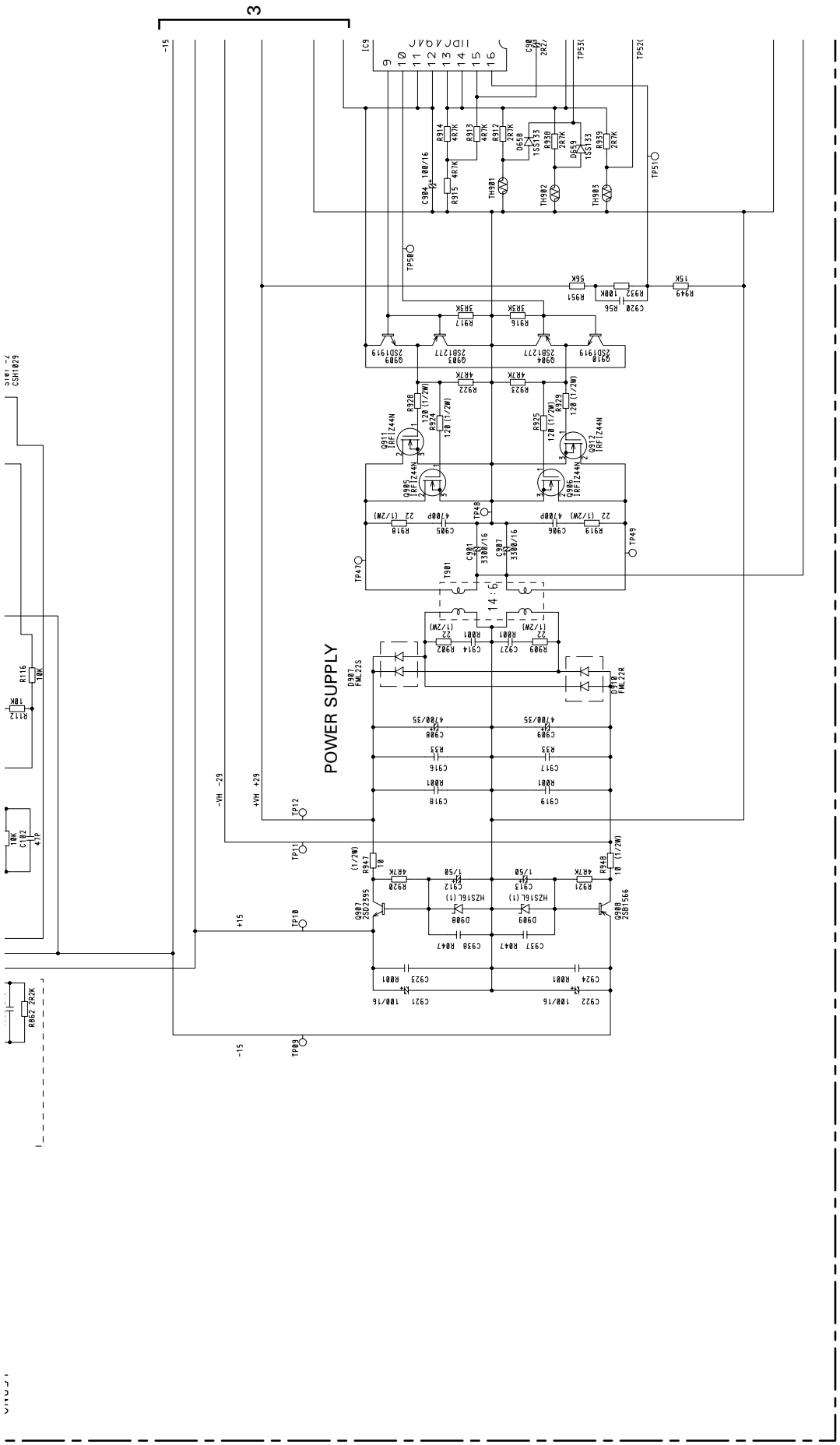
A AMP UNIT



The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.


A-b
A-a
NOTE :
BASS BOOS
60Hz
0-18dB/OCTA
OFF/LPF/HPF
HP/LP FILTER
80Hz
12dB/OCTAVE
Lch GND
Rch GND
ISOLATOR CIRCUIT
GAIN=1
PRE-OUT L
PRE-OUT R
SPEAKER
LEVEL
INPUT
CN601
CN851
CN852
Lch
Rch

A-a

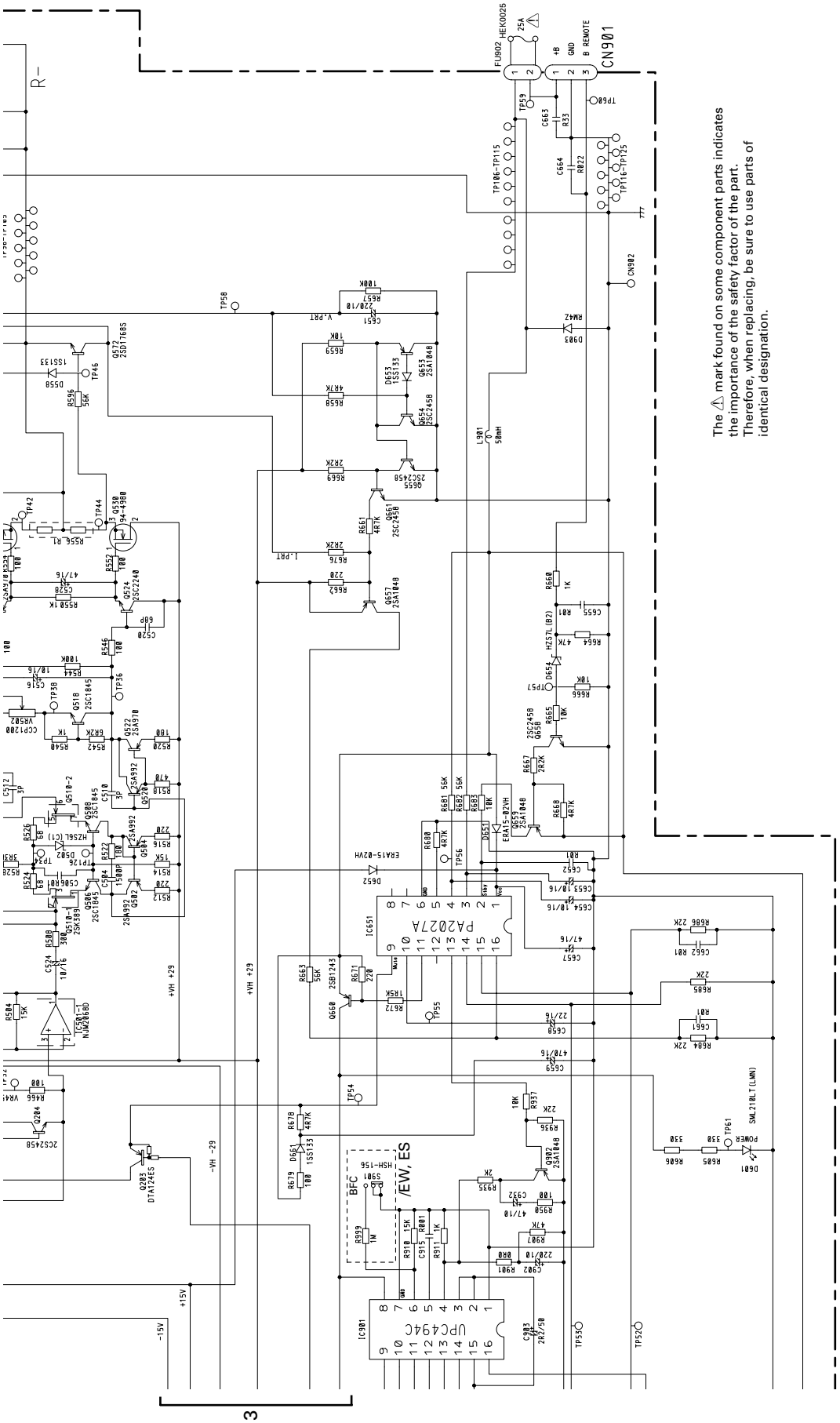

POWER SUPPLY
A-b
A-a
A
B
C
D
5
6
7
8
3
14 : 6

A-a A-b

A AMP UNIT

Decimal points for resistor and capacitor fixed values are expressed as :
2.2 → 2R2
0.022 → R022

ymbol indicates a resistor.
lo differentiation is made between chip resistors and
iscrete resistors.
ymbol indicates a capacitor.
lo differentiation is made between chip capacitors and
iscrete capacitors.

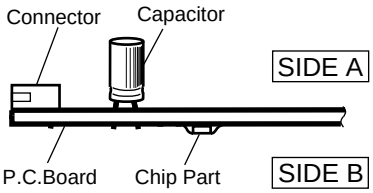

FU902 HEK0025
25A
+B
GND
B REMOTE
CN901
R-
TP59
TP60
C663
R33
C664
R822
TP106-TP115
TP116-TP125
CN902
TP58
100K
R657
220/10
C651
V.PRT
D903
RM4Z
R659
10K
R658
47K
R669
2R2K
L.PRT
L901
50mH
R661
4R7K
R676
2R2K
R662
220
R668
1K
C655
R01
R664
47K
HZS7L (B2)
D654
TP57
R666
10K
R665
10K
R667
2R2K
R681
56K
R682
56K
R683
10K
R680
4R7K
TP56
D652
ERA15-02VH
D651
ERA15-02VH
C652
R01
C653
10/16
C654
10/16
IC651
PA2027A
C657
47/16
R686
22K
C662
R01
R685
22K
R684
22K
C661
R01
R663
56K
2SB1245
Q660
R671
220
R672
15SK
TP55
C658
22/16
C659
470/16
TP54
R937
10K
R936
22K
R935
2M
R932
100
C932
2N
R938
47K
R939
1M
R931
15K
C931
R001
R931
1K
R930
220/10
R901
R8
C902
2N2
IC901
UPC494C
C903
2N2/50
TP53
TP52
R678
4R7K
D661
1SS133
R679
100
S901
BFC
HSH-156
/EW, ES
Q902
2SA1048
R606
330
R605
330
TP61
SML210LT (LWN)
D601
POWER
Q584
15K
R466
100
VR401
2SC2458
Q283
DTA124ES
-VH -29
+VH +29
+15V
-15V
3
R556 R1
R557 1
100
Q530
94-4980
TP42
TP44
R550 1K
47/16
C528
Q524
2SC2240
68P
C520
R546
100
R544
100K
10/16
C516
TP38
TP36
Q518
2SC1845
VR502
CCP1200
R542
1K
6R2K
R540
180
Q522
2SA970
R520
180
Q520
2SA992
470
R518
C512
3P
C510
3P
Q510-2
2SC1845
R526
68
HZ5ALL (C1)
D502
TP126
R522
180
Q504
2SA992
R516
22Ω
R514
15K
R512
22Ω
Q502
2SA992
Q508
2SC1845
R508
330
Q510-1
2SK389
C524
10/16
C504
1500P
C506
R01
R524
68
R528
R530
R532
R534
R536
R538
R540
R542
R544
R546
R548
R550
R552
R554
R556
R558
R560
R562
R564
R566
R568
R570
R572
R574
R576
R578
R580
R582
R584
R586
R588
R590
R592
R594
R596
R598
R600
R602
R604
R606

4. PCB CONNECTION DIAGRAM

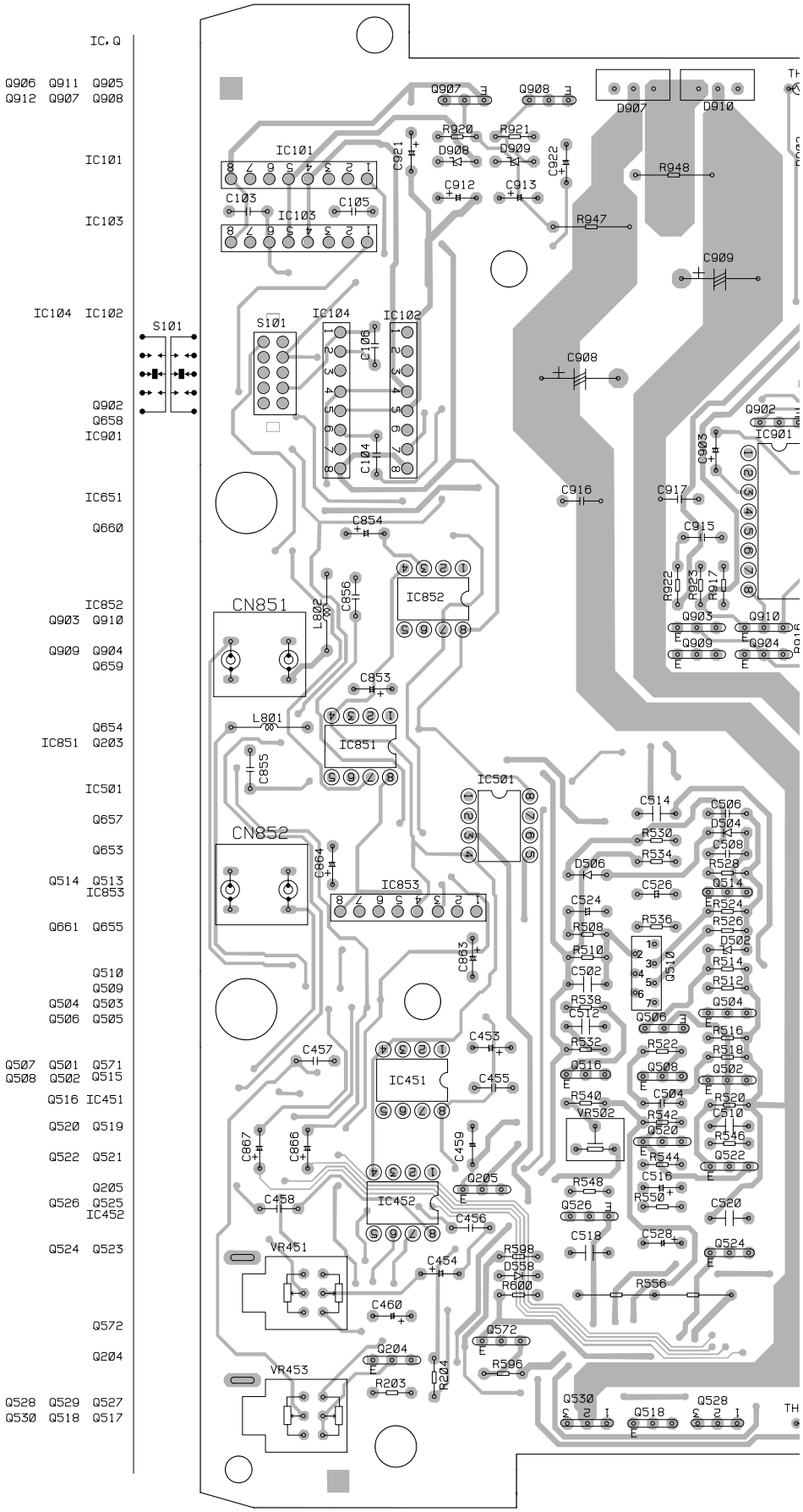
4.1 AMP UNIT

NOTE FOR PCB DIAGRAMS

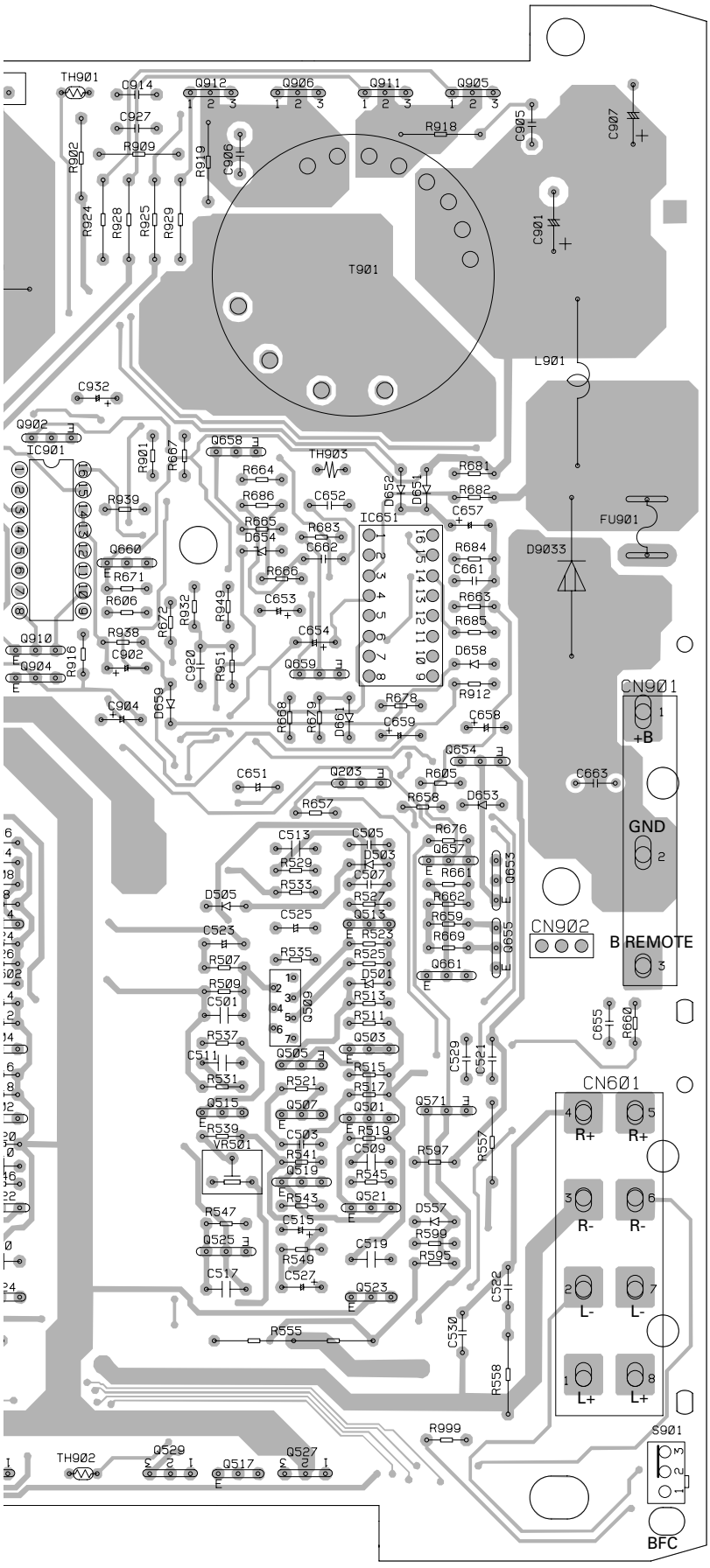
1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



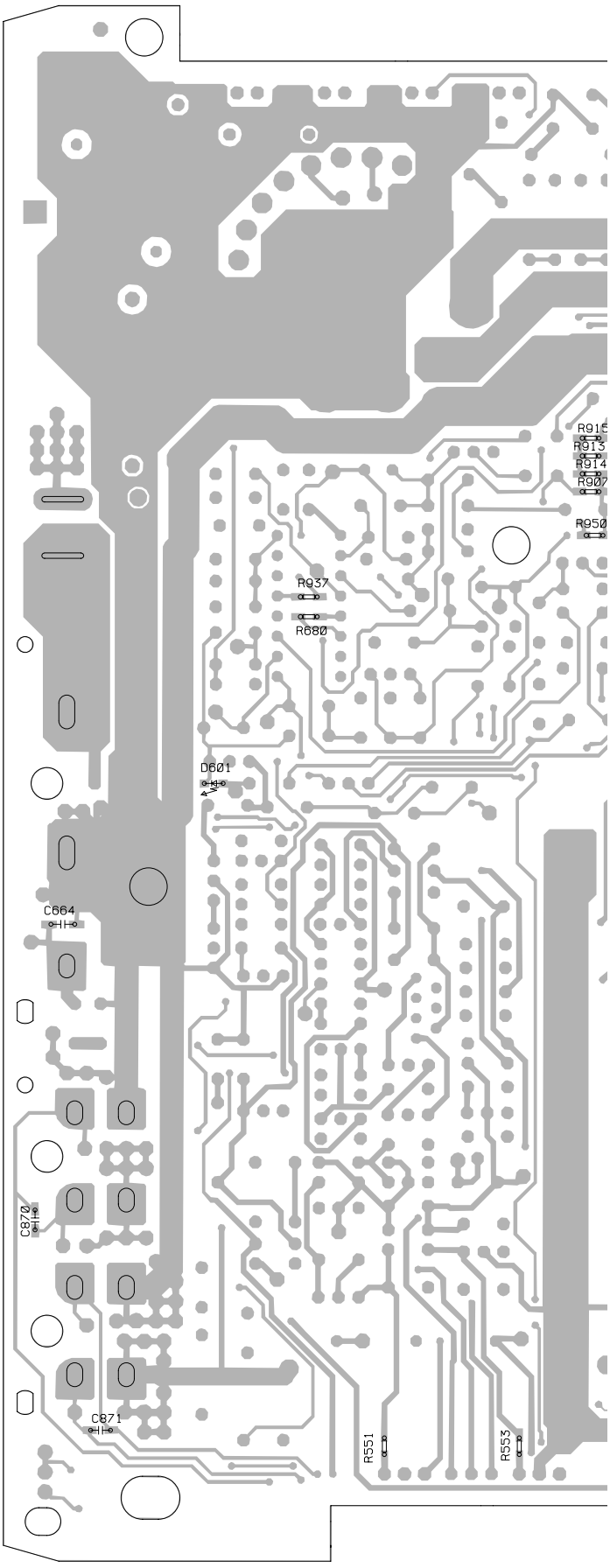
A AMP UNIT



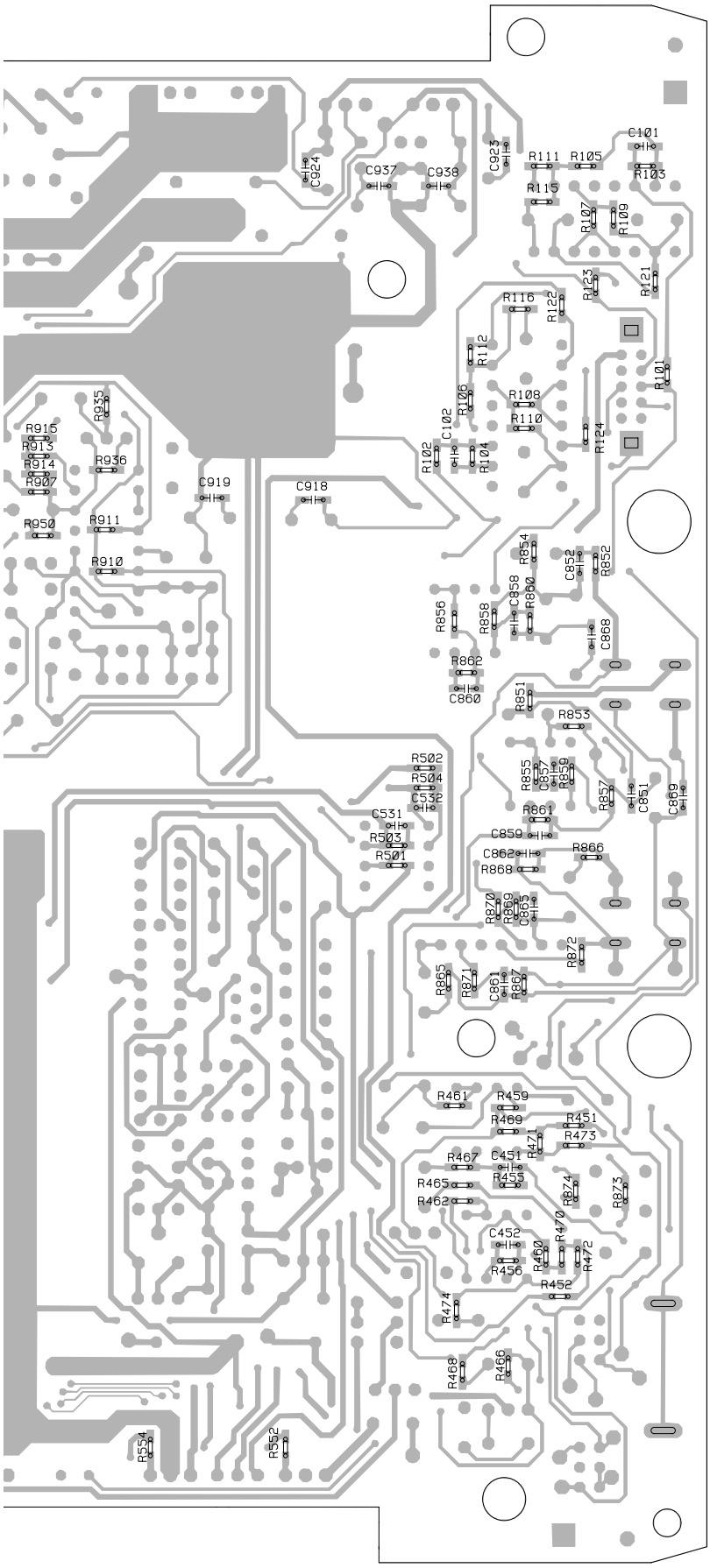
SIDE A


TH901
Q914
Q912
Q906
Q911
Q905
C927
R909
R902
R924
R928
R925
R929
R919
C906
R918
C905
C907
C901
T901
L901
C932
Q902
IC901
R901
R667
Q658
TH903
R664
R686
C652
R665
D654
R683
C662
R666
R939
Q660
R671
R606
R672
R952
R949
C653
R938
C654
Q910
Q904
R916
C902
C920
R951
Q659
D659
C904
R686
R679
D661
R678
C659
D652
D651
R681
R682
C657
IC651
FU901
D9033
R684
C661
R663
R685
D658
R912
C658
CN901
+B
GND
C663
Q654
C651
Q203
R605
R658
D653
R657
C513
C505
R529
D503
C507
R533
R527
D505
C525
Q513
R523
C523
R525
R535
D501
R507
R509
C501
R513
R511
R537
Q503
C511
Q505
R515
R531
R521
R517
Q515
Q507
Q501
R539
R519
VR501
C503
R541
C509
R545
Q519
R543
Q521
R547
C515
D557
R599
Q525
C519
R549
R595
C517
C527
Q523
C522
C530
R555
R558
R557
Q571
R597
C529
C521
R676
Q657
R661
R662
R659
R669
Q661
Q653
Q655
CN902
B REMOTE
C655
R660
CN601
R+
R+
R-
R-
L-
L-
L+
L+
R999
S901
BFC
TH902
Q529
Q517
Q527

A AMP UNIT


R915
R913
R914
R907
R950
R937
R680
D601
C664
C870
C871
R551
R553

SIDE B


C924
C937
C938
C923
R111
R105
C101
R103
R115
R107
R109
R123
R121
R116
R122
R112
R101
R106
R108
R110
R124
C102
R102
R104
R935
R915
R913
R914
R936
R907
C919
C918
R950
R911
R910
R854
C852
R852
R856
R858
C858
R860
C868
R862
C860
R851
R853
R502
R504
C532
C531
R503
R501
R855
C857
R859
R857
C851
C869
R861
C859
C862
R866
R868
R870
R869
C865
C866
R872
R865
R871
C861
R867
R461
R459
R469
R451
R473
R471
R467
C451
R455
R465
R462
R874
R873
C452
R470
R460
R456
R472
R452
R474
R468
R466
R554
R552

A
B
C
D

5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

A Unit Number : HWH0130(GM-X642/X1R/EW)
Unit Number : HWH0129(GM-X542/X1R/UC)
Unit Number : HWH0131(GM-X542/X1R/ES)
Unit Name : Amp Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	101	IC	NJM2068L
IC	102	IC	NJM2068L
IC	103	IC	NJM2068L
IC	104	IC	NJM2068L
IC	451	IC	NJM2068D
IC	452	IC	NJM2068D
IC	501	IC	NJM2068D
IC	651	IC	PA2027A
IC	851	IC	NJM2068D
IC	852	IC	NJM2068D
IC	853	IC	NJM2068L
IC	901	IC	UPC494C
Q	203	Transistor	DTA124ES
Q	204	Transistor	2SC2458
Q	205	Transistor	2SC2458
Q	501	Transistor	2SA992
Q	502	Transistor	2SA992
Q	503	Transistor	2SA992
Q	504	Transistor	2SA992
Q	505	Transistor	2SC1845
Q	506	Transistor	2SC1845
Q	507	Transistor	2SC1845
Q	508	Transistor	2SC1845
Q	509	Transistor	2SK389
Q	510	Transistor	2SK389
Q	513	Transistor	2SC1845
Q	514	Transistor	2SC1845
Q	515	Transistor	2SC2240
Q	516	Transistor	2SC2240
Q	517	Transistor	2SC1845
Q	518	Transistor	2SC1845
Q	519	Transistor	2SA992
Q	520	Transistor	2SA992
Q	521	Transistor	2SA970
Q	522	Transistor	2SA970
Q	523	Transistor	2SC2240
Q	524	Transistor	2SC2240
Q	525	Transistor	2SA970
Q	526	Transistor	2SA970
Q	527	FET	94-4980
Q	528	FET	94-4981
Q	529	FET	94-4981
Q	530	FET	94-4980
Q	571	Transistor	2SD1768S
Q	572	Transistor	2SD1768S
Q	653	Transistor	2SA1048
Q	654	Transistor	2SC2458
Q	655	Transistor	2SC2458
Q	657	Transistor	2SA1048
Q	658	Transistor	2SC2458

=====Circuit Symbol and No.		===Part Name	Part No.
Q	659	Transistor	2SA1048
Q	660	Transistor	2SB1243
Q	661	Transistor	2SC2458
Q	902	Transistor	2SA1048
Q	903	Transistor	2SB1277
Q	904	Transistor	2SB1277
Q	905	FET	IRFIZ44N
Q	906	FET	IRFIZ44N
Q	907	Transistor	2SD2395
Q	908	Transistor	2SB1566
Q	909	Transistor	2SD1919
Q	910	Transistor	2SD1919
Q	911	FET	IRFIZ44N
Q	912	FET	IRFIZ44N
D	501	Diode	HZS6L(C1)
D	502	Diode	HZS6L(C1)
D	503	Diode	1SS133
D	504	Diode	1SS133
D	505	Diode	1SS133
D	506	Diode	1SS133
D	557	Diode	1SS133
D	558	Diode	1SS133
D	601	LED	SML210LT(LMN)
D	651	Diode	ERA15-02VH
D	652	Diode	ERA15-02VH
D	653	Diode	1SS133
D	654	Diode	HZS7L(B2)
D	658	Diode	1SS133
D	659	Diode	1SS133
D	661	Diode	1SS133
D	903	Diode	RM4Z
D	907	Diode	FML22S
D	908	Diode	HZS16L(1)
D	909	Diode	HZS16L(1)
D	910	Diode	FML22R
L	801	Ferri-Inductor	CTF1007
L	802	Ferri-Inductor	CTF1007
L	901	Choke Coil 50mH	CTH1218
T	901	Transformer	HTT0009
TH	901	Thermistor	CCX1013
TH	902	Thermistor	CCX1013
TH	903	Thermistor	CCX1035
S	101	Switch (OFF, LPF, HPF)	CSH1029
S	901	Switch (BFC)(GM-X642/X1R/EW) (BFC)(GM-X542/X1R/ES)	HSH-156
VR	451	Volume 20kΩ(C)	HCS0001
VR	453	Volume 10kΩ(A)	CCS1265
VR	501	Semi-fixed	CCP1200
VR	502	Semi-fixed	CCP1200
FU	902	Fuse 25A	HEK0025

RESISTORS

Circuit Symbol and No.		Part Name	Part No.
R	101		RS1/10S103J
R	102		RS1/10S103J
R	103		RS1/10S103J
R	104		RS1/10S103J
R	105		RS1/10S103J
R	106		RS1/10S103J
R	107		RS1/10S472J
R	108		RS1/10S472J
R	109		RS1/10S562J
R	110		RS1/10S562J
R	111		RS1/10S103J
R	112		RS1/10S103J
R	115		RS1/10S103J
R	116		RS1/10S103J
R	121		RS1/10S133J
R	122		RS1/10S133J
R	123		RS1/10S133J
R	124		RS1/10S133J
R	203		RD1/4PU222J
R	204		RD1/4PU222J
R	451		RS1/10S392J
R	452		RS1/10S392J
R	455		RS1/10S182J
R	456		RS1/10S182J
R	459		RS1/10S333J
R	460		RS1/10S333J
R	461		RS1/10S221J
R	462		RS1/10S221J
R	465		RS1/10S101J
R	466		RS1/10S101J
R	467		RS1/10S222J
R	468		RS1/10S222J
R	469		RS1/10S473J
R	470		RS1/10S473J
R	471		RS1/10S910J
R	472		RS1/10S910J
R	473		RS1/10S333J
R	474		RS1/10S333J
R	501		RS1/10S222J
R	502		RS1/10S222J
R	503		RS1/10S153J
R	504		RS1/10S153J
R	507		RD1/4PU301J
R	508		RD1/4PU301J
R	509		RD1/4PU183J
R	510		RD1/4PU183J
R	511		RD1/4PU221J
R	512		RD1/4PU221J
R	513		RD1/4PU153J
R	514		RD1/4PU153J
R	515		RD1/4PU221J
R	516		RD1/4PU221J
R	517		RD1/4PU471J
R	518		RD1/4PU471J
R	519		RD1/4PU181J
R	520		RD1/4PU181J
R	521		RD1/4PU181J
R	522		RD1/4PU181J
R	523		RD1/4PU680J
R	524		RD1/4PU680J
R	525		RD1/4PU680J
R	526		RD1/4PU680J
R	527		RD1/4PU332J
R	528		RD1/4PU332J
R	529		RD1/4PU101J
R	530		RD1/4PU101J
R	531		RD1/4PU163J
R	532		RD1/4PU163J
R	533		RD1/4PU332J
R	534		RD1/4PU332J
R	535		RD1/4PU183J
R	536		RD1/4PU183J
R	537		RD1/4PU121J
R	538		RD1/4PU121J
R	539		RD1/4PU102J
R	540		RD1/4PU102J
R	541		RD1/4PU622J
R	542		RD1/4PU622J
R	543		RD1/4PU104J
R	544		RD1/4PU104J
R	545		RD1/4PU101J
R	546		RD1/4PU101J
R	547		RD1/4PU101J
R	548		RD1/4PU101J
R	549		RD1/4PU102J
R	550		RD1/4PU102J
R	551		RS1/10S101J
R	552		RS1/10S101J
R	553		RS1/10S101J
R	554		RS1/10S101J
R	555	0.1Ω	CCN1082
R	556	0.1Ω	CCN1082
R	557		RS1/2PMF100J
R	558		RS1/2PMF100J
R	595		RD1/4PU563J
R	596		RD1/4PU563J
R	597		RD1/4PU564J
R	598		RD1/4PU564J
R	599		RD1/4PU473J
R	600		RD1/4PU473J
R	605		RD1/4PU331J
R	606		RD1/4PU331J
R	657		RD1/4PU104J
R	658		RD1/4PU472J
R	659		RD1/4PU103J
R	660		RD1/4PU102J
R	661		RD1/4PU472J
R	662		RD1/4PU221J
R	663		RD1/4PU563J
R	664		RD1/4PU473J
R	665		RD1/4PU103J
R	666		RD1/4PU103J
R	667		RD1/4PU222J
R	668		RD1/4PU472J
R	669		RD1/4PU222J
R	671		RD1/4PU221J
R	672		RD1/4PU152J
R	676		RD1/4PU222J
R	678		RD1/4PU472J
R	679		RD1/4PU101J
R	680		RS1/10S472J
R	681		RD1/4PU563J
R	682		RD1/4PU563J
R	683		RD1/4PU103J
R	684		RD1/4PU223J
R	685		RD1/4PU223J
R	686		RD1/4PU223J
R	851		RS1/10S471J
R	852		RS1/10S471J
R	853		RS1/10S223J

=====Circuit Symbol and No.		===Part Name	Part No.
R	854		RS1/10S223J
R	855		RN1/10SE2201D
R	856		RN1/10SE2201D
R	857		RN1/10SE2201D
R	858		RN1/10SE2201D
R	859		RN1/10SE2201D
R	860		RN1/10SE2201D
R	861		RN1/10SE2201D
R	862		RN1/10SE2201D
R	865		RS1/10S821J
R	866		RS1/10S821J
R	867		RS1/10S223J
R	868		RS1/10S223J
R	869		RS1/10S472J
R	870		RS1/10S472J
R	871		RS1/10S472J
R	872		RS1/10S222J
R	873		RS1/10S333J
R	874		RS1/10S333J
R	901		RD1/4PU0R0J
R	902		RS1/2PMF220J
R	907		RS1/10S473J
R	909		RS1/2PMF220J
R	910		RS1/10S153J
R	911		RS1/10S102J
R	912		RD1/4PU272J
R	913		RS1/10S472J
R	914		RS1/10S472J
R	915		RS1/10S472J
R	916		RD1/4PU332J
R	917		RD1/4PU332J
R	918		RS1/2PMF220J
R	919		RS1/2PMF220J
R	920		RD1/4PU472J
R	921		RD1/4PU472J
R	922		RD1/4PU472J
R	923		RD1/4PU472J
R	924		RS1/2PMF121J
R	925		RS1/2PMF121J
R	928		RS1/2PMF121J
R	929		RS1/2PMF121J
R	932		RD1/4PU104J
R	935		RS1/10S202J
R	936		RS1/10S223J
R	937		RS1/10S103J
R	938		RD1/4PU272J
R	939		RD1/4PU272J
R	947		RS1/2PMF100J
R	948		RS1/2PMF100J
R	949		RD1/4PU153J
R	950		RS1/10S101J
R	951		RD1/4PU563J
R	999	(GM-X642/X1R/EW, GM-X542/X1R/ES)	RD1/4PU105J

CAPACITORS

C	101		CCSQCH470J50
C	102		CCSQCH470J50
C	103		CFTLA154J50
C	104		CFTLA154J50
C	105		CFTLA154J50
C	106		CFTLA154J50
C	451		CKSQYB273K25
C	452		CKSQYB273K25
C	453		CEAS4R7M35
C	454		CEAS4R7M35
C	455		CFTLA224J50
C	456		CFTLA224J50
C	457		CFTLA473J50
C	458		CFTLA473J50
C	459		CEAS470M16
C	460		CEAS470M16
C	501		CMA220J2H
C	502		CMA220J2H
C	503		CQMA152J50
C	504		CQMA152J50
C	505		CQMA103J50
C	506		CQMA103J50
C	507		CFTLA393J50
C	508		CFTLA393J50
C	509		CMA030D2H
C	510		CMA030D2H
C	511		CMA030D2H
C	512		CMA030D2H
C	513		CMA180J2H
C	514		CMA180J2H
C	515		CEAS100M16
C	516		CEAS100M16
C	517		CMA680J2H
C	518		CMA680J2H
C	519		CMA680J2H
C	520		CMA680J2H
C	521		CFTLA333J50
C	522		CFTLA333J50
C	523		CEJANP100M16
C	524		CEJANP100M16
C	525	100µF/16V	HCH0002
C	526	100µF/16V	HCH0002
C	527		CEAS470M16
C	528		CEAS470M16
C	529		CQMA102J50
C	530		CQMA102J50
C	531		CCSQCH470J50
C	532		CCSQCH470J50
C	651	220µF/10V	CCH1036
C	652		CFTLA103J50
C	653		CEAS100M16
C	654		CEAS100M16
C	655		CFTLA103J50
C	657		CEAS470M16
C	658		CEAS220M16
C	659	470µF/16V	CCH1183
C	661		CFTLA103J50
C	662		CFTLA103J50
C	663		CFTLA334J50
C	664		CKSQYB223K50
C	851		CKSQYB471K50
C	852		CKSQYB471K50
C	853		CEAS100M16
C	854		CEAS100M16
C	855		CFTLA104J50
C	856		CFTLA104J50
C	857		CCSQCH271J50
C	858		CCSQCH271J50
C	859		CCSQCH271J50
C	860		CCSQCH271J50
C	861		CKSQYB471K50
C	862		CKSQYB471K50
C	863		CEAS4R7M35
C	864		CEAS4R7M35
C	865		CCSQCH470J50

=====Circuit Symbol and No.		===Part Name	Part No.
C	866		CEAS100M16
C	867		CEAS100M16
C	868		CCSSL101J50
C	869		CCSSL101J50
C	870		CKSQYB122K50
C	871		CKSQYB122K50
C	901	3300µF/16V	CCH1211
C	902		CEAS221M10
C	903		CEAS2R2M50
C	904		CEAS101M16
C	905		CQMA472J50
C	906		CQMA472J50
C	907	3300µF/16V	CCH1211
C	908	4700µF/35V	HCH0001
C	909	4700µF/35V	HCH0001
C	912		CEASR10M50
C	913		CEASR10M50
C	914		CQMA102J50
C	915		CQMA102J50
C	916		CFTLA334J50

=====Circuit Symbol and No.		===Part Name	Part No.
C	917		CFTLA334J50
C	918		CKSQYB102K50
C	919		CKSQYB102K50
C	920		CFTLA564J50
C	921		CEAS101M16
C	922		CEAS101M16
C	923		CKSQYB102K50
C	924		CKSQYB102K50
C	927		CQMA102J50
C	932		CEAS470M10
C	937		CKSQYB473K50
C	938		CKSQYB473K50

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

7.1 DISASSEMBLY

● **Removing the Case and the Plate (Fig.1)**

1. Remove the four screws.
2. Remove the screw.
3. Remove the three screws.
4. Remove the two screws and then remove the Case.
5. Remove the screw and then remove the Plate.

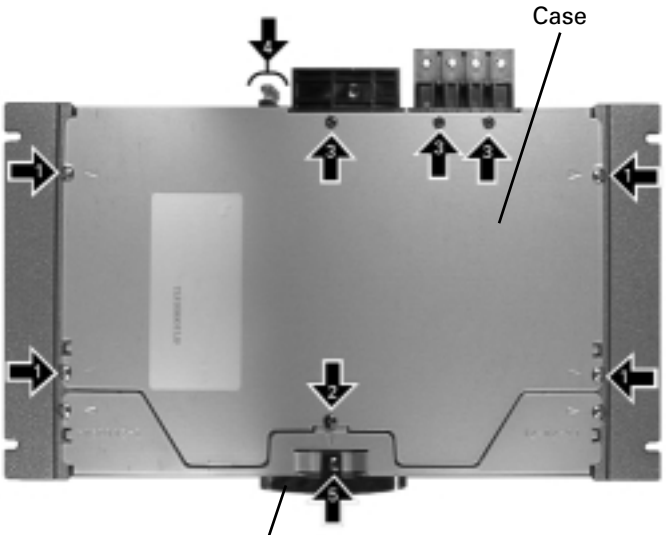


Fig.1

● **Removing the Amp Unit (Fig.2)**

1. Remove the four screws.
2. Remove the two screws and then remove the Panel.
3. Remove the twelve screws.
4. Remove the six screws and then remove the Amp Unit.

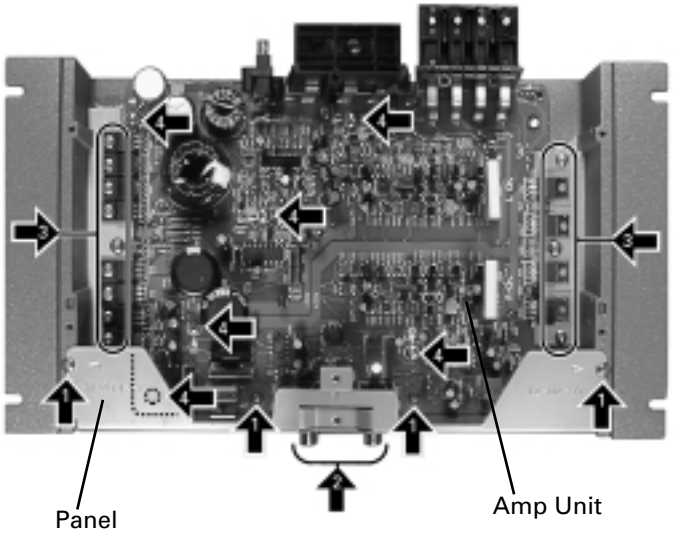
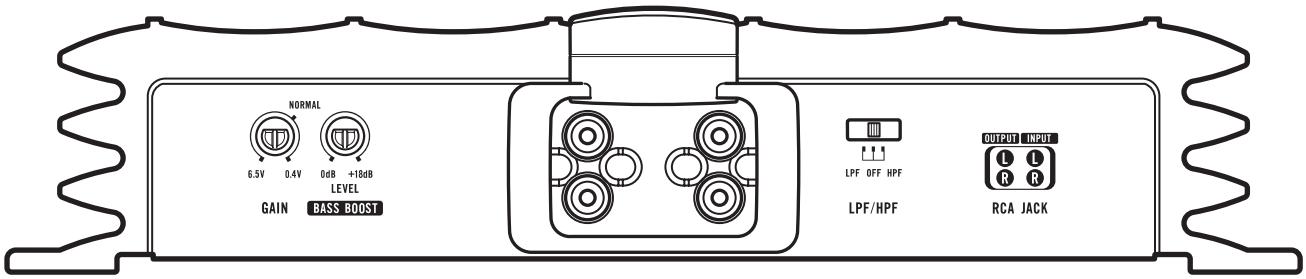
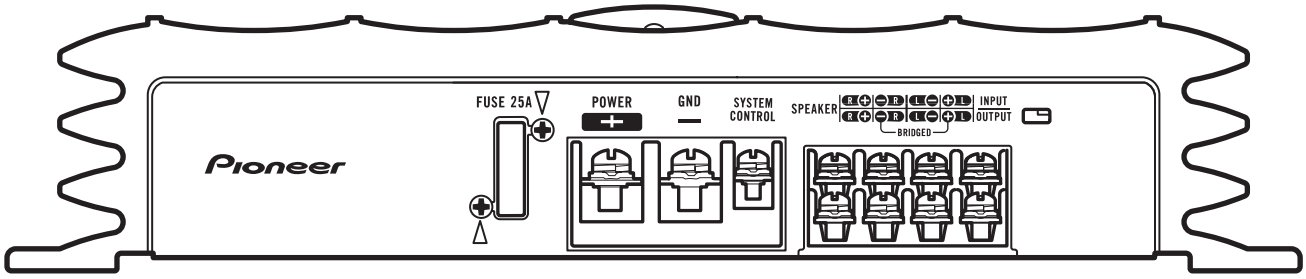


Fig.2

8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS





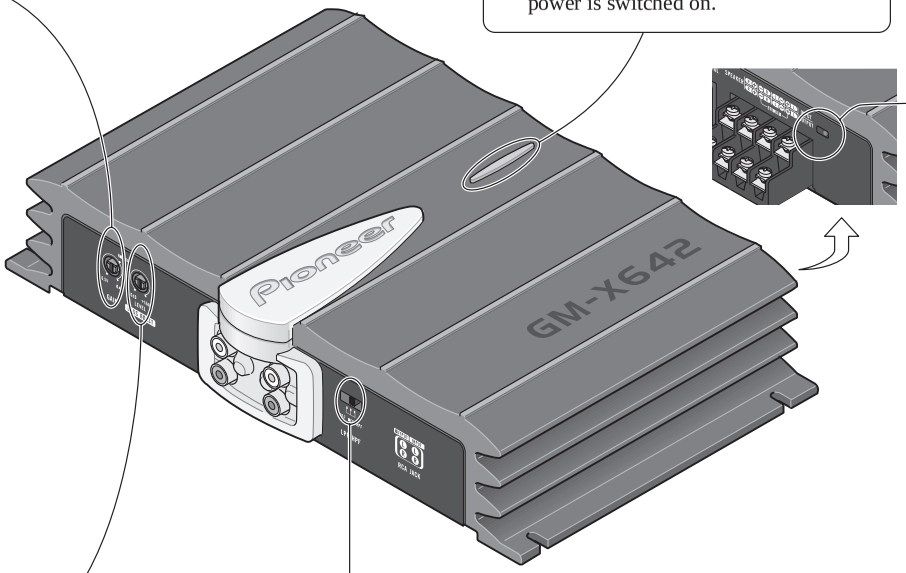
Gain Control

If the sound level is too low, even when the volume of the car stereo used along with this power amplifier is turned up, turn gain control on the front of the power amplifier clockwise. If the sound distorts when the volume is turned up, turn the gain control counter-clockwise.

- When using with an RCA equipped car stereo (standard output of 500 mV), set to the NORMAL position. When using with an RCA equipped Pioneer car stereo with max. output of 4 V or more, adjust level to match the car stereo output level.
- If you hear too much noise when using the speaker input terminals, turn the gain control counter-clockwise.

Power Indicator

The power indicator lights when the power is switched on.



BFC (Beat Frequency Control) Switch

If you hear a beat while listening to an MW/LW broadcast with your car stereo, change the BFC switch using a small standard tip screwdriver.

Bass Boost Level Control

Bass Boost Level Control can boost the level around 60 Hz from 0 to 18 dB.

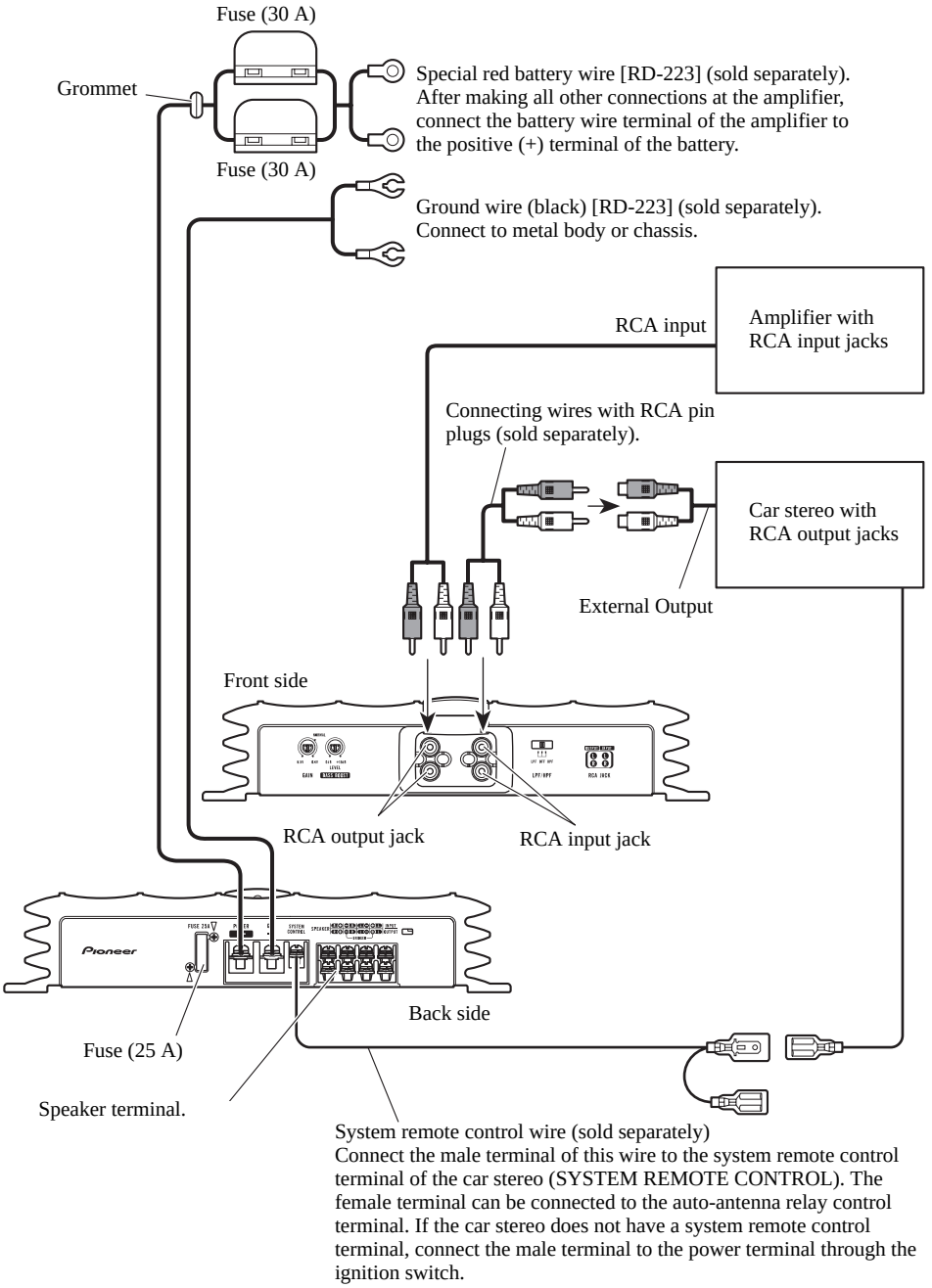
- Bass Boost Level Control can be adjusted only when the LPF/HPF select switch is set to a position other than HPF.

LPF (Low-Pass Filter)/HPF (High-Pass Filter) Select Switch

Set the LPF/HPF select switch as follows according to the type of speaker that is connected to the speaker output connector and the car stereo system:

LPF/HPF Select Switch	Audio frequency range to be output	Speaker Type	Remarks
LPF (left)	Very Low Frequency range	Subwoofer	Connect a subwoofer.
OFF (center)	Full range	Full range	
HPF (right)	Low Frequency range to High Frequency range	Full range	Use if you want to cut the very low frequency range because it is not necessary for the speakers you are using.

Connection Diagram


Fuse (30 A)
Grommet
Special red battery wire [RD-223] (sold separately).
After making all other connections at the amplifier,
connect the battery wire terminal of the amplifier to
the positive (+) terminal of the battery.
Fuse (30 A)
Ground wire (black) [RD-223] (sold separately).
Connect to metal body or chassis.
RCA input
Amplifier with
RCA input jacks
Connecting wires with RCA pin
plugs (sold separately).
Car stereo with
RCA output jacks
External Output
Front side
RCA output jack
RCA input jack
Pioneer
Back side
Fuse (25 A)
Speaker terminal.
System remote control wire (sold separately)
Connect the male terminal of this wire to the system remote control
terminal of the car stereo (SYSTEM REMOTE CONTROL). The
female terminal can be connected to the auto-antenna relay control
terminal. If the car stereo does not have a system remote control
terminal, connect the male terminal to the power terminal through the
ignition switch.

8.2 SPECIFICATIONS

● GM-X642/X1R/EW

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Current consumption	15.5 A (at continuous power, 4 Ω)
Average current drawn*	5.6 A (4 Ω for two channels)
	8.8 A (4 Ω for one channel)
Fuse	25 A
Dimensions	270 (W) × 60 (H) × 165 (D) mm
Weight	2.7 kg (Leads for wiring not included)
Maximum power output	100 W × 2 / 300 W × 1
Continuous power output	75 W × 2 / 195 W × 1 (DIN45324, +B=14.4 V)
Load impedance	4 Ω (1 — 8 Ω allowable)
	(Bridge connection: 2 — 8 Ω allowable)
Frequency response	10 — 50,000 Hz (+0 dB, –1 dB)
Signal-to-noise ratio	105 dB (IEC-A network)
Distortion	0.005 % (10 W, 1 kHz)
Separation	65 dB (1 kHz)
Low pass filter	Cut off frequency: 80 Hz
	Cut off slope: –12 dB/oct
High pass filter	Cut off frequency: 80 Hz
	Cut off slope: –12 dB/oct
Bass boost	Frequency: 60 Hz
	Gain: 0 — 18 dB
Maximum input level/impedance	RCA: 6.5 V/22 kΩ (0.4 — 6.5 V)
	Speaker: 26 V/40 kΩ (1.6 — 26 V)

Note:
- Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**
- The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.

● GM-X542/X1R/UC

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Current consumption	15.5 A (at continuous power, 4 Ω)
Average current drawn*	5.6 A (4 Ω for two channels)
	8.8 A (4 Ω for one channel)
Fuse	25 A
Dimensions	270 (W) × 60 (H) × 165 (D) mm
	[10-5/8 (W) × 2-3/8 (H) × 6-1/2 (D) in]
Weight	2.7 kg (5.9 lbs) (Leads for wiring not included)
Maximum power output	100 W × 2 / 300 W × 1
Continuous power output	50 W × 2 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.08% THD)
	150 W × 1 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.8% THD)
	75 W × 2 (at 14.4 V, 2 Ω, 20 — 20,000 Hz, 0.8% THD)
Load impedance	4 Ω (1 — 8 Ω allowable)
	(Bridge connection: 2 — 8 Ω allowable)
Frequency response	10 — 50,000 Hz (+0 dB, –1 dB)
Signal-to-noise ratio	105 dB (IHF–A network)
Distortion	0.005% (10 W, 1 kHz)
Separation	65 dB (1 kHz)
Low pass filter	Cut off frequency: 80 Hz
	Cut off slope: –12 dB/oct
High pass filter	Cut off frequency: 80 Hz
	Cut off slope: –12 dB/oct
Bass boost	Frequency: 60 Hz
	Gain: 0 — 18 dB
Maximum input level/impedance	RCA: 6.5 V/22 kΩ (0.4 — 6.5 V)
	Speaker: 26 V/40 kΩ (1.6 — 26 V)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**

- The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.

● GM-X542/X1R/ES

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Current consumption	15.5 A (at continuous power, 4 Ω)
Average current drawn*	5.6 A (4 Ω for two channels)
	8.8 A (4 Ω for one channel)
Fuse	25 A
Dimensions	270 (W) × 60 (H) × 165 (D) mm
Weight	2.7 kg (Leads for wiring not included)
Maximum power output	100 W × 2 / 300 W × 1
Continuous power output	50 W × 2 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.08% THD)
	150 W × 1 (at 14.4 V, 4 Ω, 20 — 20,000 Hz, 0.8% THD)
	75 W × 2 (at 14.4 V, 2 Ω, 20 — 20,000 Hz, 0.8% THD)
Load impedance	4 Ω (1 — 8 Ω allowable)
	(Bridge connection: 2 — 8 Ω allowable)
Frequency response	10 — 50,000 Hz (+0 dB, –1 dB)
Signal-to-noise ratio	105 dB (IEC-A network)
Distortion	0.005% (10 W, 1 kHz)
Separation	65 dB (1 kHz)
Low pass filter	Cut off frequency: 80 Hz
	Cut off slope: –12 dB/oct
High pass filter	Cut off frequency: 80 Hz
	Cut off slope: –12 dB/oct
Bass boost	Frequency: 60 Hz
	Gain: 0 — 18 dB
Maximum input level/impedance	RCA: 6.5 V/22 kΩ (0.4 V — 6.5 V)
	Speaker: 26 V/40 kΩ (1.6 V — 26 V)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**

- The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.